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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of)	IB Docket No. 95-91
)	GEN Docket No. 90-357
)	RM No. 8610
Establishment of Rules and Policies for the)	PP-24
Digital Audio Radio Satellite Service in the)	PP-86
2310-2360 MHz Frequency Band)	PP-87

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

**REPLY COMMENTS OF
AMERICAN MOBILE RADIO CORPORATION**

American Mobile Radio Corporation ("AMRC"), by its attorneys, hereby replies to comments filed by the National Association of Broadcasters ("NAB") and Susquehanna Radio Corporation ("Susquehanna") concerning additional information provided by AMRC on its planned deployment of terrestrial repeaters.^{1/} The comments largely repeat arguments that the parties have made previously in an apparent attempt to stymie the development of this important new service.

Both NAB and Susquehanna generally claim that AMRC's system constitutes a new terrestrial broadcast service that is merely supplemented by a satellite signal in rural areas. NAB Comments at 2; Susquehanna Comments at 2. NAB also contends that the Commission should enact rules which ensure that DARS terrestrial repeaters are used only to retransmit the complete signal from its satellites, thereby prohibiting the insertion of additional programming channels, ancillary data, or control signals at terrestrial repeater sites. NAB Comments at 3. In addition, NAB believes that the Commission should limit the maximum effective power of DARS terrestrial repeaters to no greater than 1 kW. *Id.* In its comments, Susquehanna also repeats its arguments against ARC's use of 2.5 MHz for the operation of its terrestrial repeaters. Susquehanna Comments at 2-3. Finally,

^{1/} See Letter to Rosalee Chiara, Deputy Chief, Satellite Policy Branch, International Bureau, Federal Communications Commission, from William Garner, Chief Scientist, AMRC (November 14, 1997).

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Susquehanna also argues that "active" terrestrial repeaters should be licensed individually. *Id.* at 2.

Discussion

I. AMRC's DARS System Remains Fundamentally a Satellite System

Despite commenters' claims, AMRC's DARS system remains fundamentally a satellite system, one that uses terrestrial repeaters only to fill in gaps in coverage. All programming will be uplinked to AMRC's satellites and transmitted by these satellites throughout the United States. As AMRC has stated previously, to improve the effective coverage of its system and provide a high quality, seamless national radio service, AMRC must deploy a sufficient number of terrestrial repeaters in those limited areas where it may be difficult to receive satellite-based signals due to line-of-sight blockage from buildings and where the satellite signal receives interference from various terrestrial sources, such as microwave ovens.^{2/} AMRC Reply Comments at 1-2.

AMRC's satellite facilities are the core of its DARS system. AMRC's satellites will provide full CONUS coverage, while its terrestrial repeaters will cover a small percentage of that area. AMRC expects to spend more than \$500 million on the construction and launch of its satellites, several times more than the projected total cost of its terrestrial repeaters. All programming on AMRC's system will originate at its satellite facilities; without AMRC's satellites, there would be no programming for its terrestrial repeaters to retransmit. No programming will be transmitted by terrestrial repeaters that is not also transmitted by the satellite.

^{2/} AMRC's November 14, 1997 letter to the Commission provides its best current estimates concerning the number and power levels of its terrestrial repeaters. These figures, however, are only estimates. AMRC will gain a more precise understanding of its repeater requirements through additional system modeling, and, once its satellites are launched and operating, through field measurements of the effects of building and terrain blockage on its DARS system. AMRC urges the Commission to provide AMRC with the maximum possible flexibility to deploy terrestrial repeaters as required by actual operating conditions.

II. AMRC Does Not Object to a Rule Requiring DARS Licensees to Use DARS Terrestrial Repeaters Only to Retransmit the Complete Signal from its Satellites.

AMRC continues to not object to NAB's proposal that the Commission require DARS licensees to use DARS terrestrial repeaters only to retransmit the complete signal from its satellites. In its May 16 Amendment, AMRC indicated that its terrestrial repeaters would retransmit, over a 2.5 MHz band, roughly half of the programming carried by its satellites. Subsequent to the filing of the amendment, AMRC entered into an intense design period, including negotiations with potential satellite contractors. As a result of this process, AMRC expects to be able to deploy terrestrial repeaters over a 4 MHz band that can retransmit all of the satellite programming, as well as any ancillary data or control signals accompanying this programming. This design change will not reduce the satellite capacity of AMRC's system.^{3/}

Susquehanna's attacks on AMRC's system design reflect a misunderstanding of that design. In fact, AMRC's frequency plan and TDM design makes it largely impossible for AMRC to use its repeaters to insert distinct local programming.^{4/} If AMRC attempted to substitute satellite programming with local programming at terrestrial repeater sites, receivers in the vicinity of those

^{3/} AMRC anticipates filing an application in the next few weeks to modify its license to reflect this proposed design change.

^{4/} As AMRC has previously stated, its frequency plan and modulation scheme is justified by both its efficiency and its consistency with prior development efforts. In this mixed satellite/terrestrial environment, AMRC has chosen to use separate frequencies for the satellite and terrestrial portions, thereby avoiding the interference conflict between the two. This is as efficient as the alternative method, which involves some form of spectrum spreading to separate the signals in the receiver. Also, as a result of its system design, AMRC can operate its satellite transponders at saturation, maximizing its downlink margin. Thus, AMRC is convinced that, overall, its proposed design will be able to deliver by satellite at least as many channels as other possible alternatives. In addition, AMRC's system design permits it to take advantage of the years of ongoing research and development effort by WorldSpace, Inc., an AMRC shareholder, thus facilitating rapid deployment of the system.

repeaters would not function properly on those channels because AMRC's receivers are designed to work only if programming from the satellite and the repeaters is the same.

III. The Commission Should Reject Any Proposal to Limit the Maximum Effective Radiated Power of DARS Terrestrial Repeaters

The Commission should reject NAB's proposal that DARS terrestrial repeaters be limited to a maximum effective radiated power of 1 kW. The NAB fails to present any legitimate reason to limit AMRC's discretion in this process. The deployment of terrestrial repeaters is expensive. AMRC already has a strong economic incentive to make their deployment as efficient as possible. The only effect of the NAB's proposed power limit would be a prohibitive escalation in the cost of improving coverage. The Commission should reject this self-serving proposal.

IV. The Commission Should Adopt a Blanket License Procedure for All Terrestrial Repeaters, Including Those Defined as "Active" Repeaters

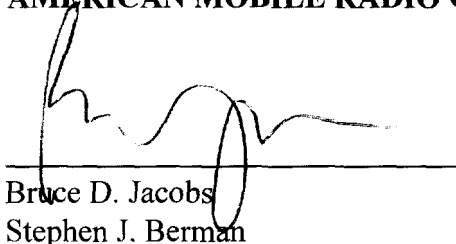
AMRC disagrees with Susquehanna's proposal that "active" repeaters be licensed individually, rather than through a blanket licensing process. As AMRC has discussed in earlier pleadings, the individual licensing of repeaters would add extraordinary expense and potential delay to the deployment of repeaters, with no corresponding benefit to the public interest. It is not at all apparent how such individual licensing will add at all to the Commission's ability to enforce its prohibition on local program origination or to protect against interference, as suggested by Susquehanna. If a repeater is being misused, detection of such activity will not be difficult, and anyone will be able to file a complaint against the DARS licensee and that licensee will be held accountable. The fact that such repeater was deployed under a blanket license will have no effect on this complaint process.

Conclusion

Therefore, based on the foregoing, AMRC urges the Commission to expeditiously finalize its rules to permit the use of terrestrial repeaters as required by market forces, and to proceed promptly with the process of blanket certification for these repeaters, thereby allowing the DARS licensees to move forward with their business plans.

Respectfully submitted,

AMERICAN MOBILE RADIO CORP.



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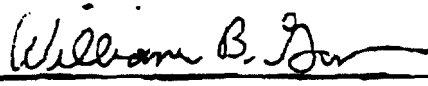
Its Attorneys

Date: January 22, 1998

Technical Certification

I, William B. Garner, Chief Scientist of American Mobile Radio Corporation,
("AMRC"), certify under penalty of perjury that:

I have reviewed the technical information contained in the Reply Comments of AMRC
regarding the proposed FCC rules for the deployment and operation of terrestrial repeaters, and
the information contained in these Reply Comments is true and correct to the best of my belief.



William B. Garner

Dated: January 22, 1997

CERTIFICATE OF SERVICE

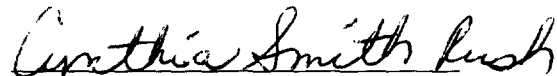
I, Cynthia Smith Rush, a secretary to the law firm of Fisher Wayland Cooper Leader & Zaragoza L.L.P., hereby certify that on this 22nd day of January, 1998, I served a true copy of the foregoing "Reply Comments of AMRC" by first class United States Mail, postage prepaid, upon the following:

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